SECTION 4 – ILLICIT DISCHARGE DETECTION AND ELIMINATION

40 CFR 122.34 (b)(3) – Develop, implement, and enforce a program to detect and eliminate illicit discharges into your small MS4. Develop a storm sewer system map, showing the location of all outfalls and the names and locations of all waters of the U.S. that receive discharges from those outfalls. To the extent allowable under state, tribal, or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-stormwater discharges into your storm sewer system and implement appropriate enforcement procedures and actions. Develop and implement a plan to detect and address non-stormwater discharges including illegal dumping to your system. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste. Address categories listed in 122.34 (b)(3)(D)(iii) if you determine they are significant contributors of pollutants to MS4.

4.0 OVERVIEW

The illicit discharge detection and elimination MCM is intended to reduce improper waste management practices. To eliminate illicit discharges into the public storm sewer system, permittees will be required to develop a strategy to detect and eliminate such discharges. An illicit discharge has been defined by the EPA as "any discharge into a separate storm sewer system that is not composed entirely of storm water."

According to the Nationwide Urban Runoff Program (NURP) study, urban dry weather discharges were found to frequently have pollutant levels high enough to significantly impact the water quality of the receiving water bodies. It is believed that most of the flow during dry weather conditions is due to illicit and/or inappropriate discharges and connections to the MS4 such as mistaken or deliberate connections of wastewater lines to the MS4. Permanent illicit connections to storm sewers – connections that often originate from businesses – allow wastewater to enter directly into storm drains and provide a continuous source of pollutants. The MS4 may also receive the illicit discharge through an indirect connection such as infiltration into the MS4 or spills flowing into storm drains.

Local governments can work toward eliminating illicit discharges to their storm system by educating citizens and businesses, updating or developing storm sewer maps, establishing local ordinances that bar the improper discharge of pollutants into the stormwater system, developing specific plans to detect and address illicit discharges, and perhaps targeting specific businesses.

Table 4.1 BMP and measurable goal summary for Illicit Discharge Detection and Elimination.

BMP	MEASURABLE GOAL	PERMIT YEAR				
		1	2	3	4	5
Ordinance	Evaluate existing ordinances and develop draft ordinance; conduct public review; present to Council for adoption, implement ordinance	X				
Storm drainage system mapping	Evaluate GIS plan to determine if additional information is needed	X				
	Complete date capture of all infrastructure within City limits; develop policies and procedures to update map		X			
Illicit discharge detection and elimination program						
-Hotline	Set up and publicize			X		
-Screening, inspection, or detection program	Establish baseline measures	X				
	Develop and implement program		X			
Develop database of businesses	Develop database and update annually.	X				
Recycling program for HHW	Hold at least one neighborhood collection per year; continue to publicize FB Recycle Center	X				
	Consider implementation of voucher program			X		
Septic Systems	Evaluate need for septic system inspection program; implement program, if necessary			X		

4.1 ILLICIT DISCHARGE ORDINANCE

Description

Sugar Land will develop an ordinance or modify existing ordinances to address illicit discharges to the MS4. The Public Works and Code Enforcement departments will work together to ensure compliance with the ordinance. The ordinance will prohibit illicit discharges and connections, prohibit all non-stormwater discharges that significantly contribute pollutants to the MS4, and prohibit illegal dumping. It will include appropriate enforcement procedures and actions and establish legal authority to carry out inspection surveillance and monitoring procedures necessary to ensure compliance with the ordinance. The ordinance will also identify a list of occasional incidental non-stormwater discharges that will not be addressed as illicit discharges. (Fire fighting activities are excluded from being prohibited and only need to be addressed if they are determined to be a significant contributor of pollutants to the MS4.)

To effectively detect the discharges, the City should develop an ordinance that grants the authority to inspect the properties of people suspected of releasing contaminated discharges. The ordinance can also establish enforcement actions for entities found to be

in noncompliance or that refuse to allow access to their facilities. Well-conceived plans for detecting and addressing illicit discharges include procedures for locating areas likely to have illicit discharges, tracing the source of an illicit discharge, removing the source, and evaluating and assessing the program.

Measurable Goals

- Evaluate existing ordinances that may require modification.
- Develop a draft ordinance and/or modification.
- Conduct public review and collect comments on the draft ordinance.
- Present ordinance to City Council for adoption. Adoption of ordinance by Council.
- Implement ordinance.

Costs

- Labor – Existing City staff
- Equipment/Supplies – Newspaper publication costs

Implementation Schedule

Evaluate existing ordinances, develop draft ordinance and/or modification, conduct public review, and collect comments on draft ordinance in Permit Year 1. Present ordinance to Council for adoption in Permit Year 1. Implement ordinance in Permit Year 1.

4.2 STORM DRAINAGE SYSTEM MAPPING

Description

The City of Sugar Land has created a GIS work plan and is currently in the process of developing a map of the storm drainage system that shows the waters of the U.S. and the location of storm sewer pipes, ditches, and other conveyances owned by the City. The map will also show the locations of major outfalls to the waters of the U.S. These features include:

- Any stormwater discharge from a single pipe with an inside diameter of 36 inches or more, and its equivalent (discharge from a single conveyance with a drainage area of more than 50 acres)
- For lands zoned industrial, any stormwater discharge from a single pipe with an inside diameter of 12 inches or more, and its equivalent (drainage area of 2 or more acres).

The Public Works Department has developed a GIS plan that calls for a phased building of the system for public infrastructure (water and wastewater systems, pumping facilities, storm sewer system, roadway and sidewalk system, street lighting, drainage ditches, basins, etc.). Currently, details are being finalized for all infrastructure within the City

limits north of US 90A. Completion of the Public Works GIS project will provide graphic representation of all infrastructure within the City limits south of US 90A. It is estimated that the GIS project will be completed by Permit Year 2. Recurring funds have been requested to provide updates to the system and to scan construction plans on an annual basis. Future year funding will be requested to complete development of all infrastructure within the City's ETJ and to integrate the AS/400 work order system data into GIS, which will attach an enormous amount of historical information to specific locations and appurtenances.

The completion of the Public Works GIS plan will provide the City with a comprehensive overall layout of all public infrastructure networks. The City will evaluate the GIS system to determine if additional information is needed to better serve the purposes of the SWMP.

An up-to-date storm sewer map is crucial to detecting and removing any illicit sewer connections and thereby eliminating illicit discharges. The Public Works department will need to develop policies and procedures to ensure that the map is kept current once the GIS system is completed. The City currently requires developers to provide GIS-compatible electronic files of commercial and residential development drawings. These files are integrated into an overall City drainage system map. Some ongoing field verification may be necessary to keep the map up-to-date. Additional city drainage features that are located in areas outside the coverage of the developer-provided drawings will be identified and located by field surveying or GPS and included on the drainage system map.

Measurable Goals

- Evaluate GIS plan to determine if additional information is needed to better manage stormwater quality.
- Complete data capture of all infrastructure within the City limits.
- Develop policies and procedures to ensure that the GIS system is kept current once the initial infrastructure is completed.
- Evaluate the need to require developers to provide GIS-compatible electronic files.

Costs

- Labor – Existing City staff
- Equipment/Supplies – N/A

Implementation Schedule

Evaluate GIS plan to determine if additional information is needed to better manage stormwater quality in Permit Year 1. Complete data capture of all infrastructure within the City limits in Permit Year 2. Develop policies and procedures to update map in Permit Year 2. Evaluate the need to require developers to provide GIS-compatible electronic files in Permit Year 2.

4.3 ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

The illicit discharge detection and elimination program will include the following components.

4.3.1 Illicit Discharge/Dumping Hotline

Description
Sugar Land will develop procedures for receipt and consideration of information submitted by the public regarding illicit discharges, including illegal dumping. This hotline can be combined with the construction site reporting hotline. This stormwater/environmental hotline will facilitate the ability of the public to provide information that will assist in the detection of problem discharges. Public Works currently responds to citizen requests and performs construction inspections; therefore, little or no additional cost may be associated with this activity. Another consideration may be to have an additional phone line that can be publicized for reporting illicit discharges and dumping. Procedures will need to be established on who will answer the calls, how they will be documented, and who will respond to the calls. Printed educational materials and slides displayed on the municipal cable channel would include the environmental hotline number.

Measurable Goals

- Set up hotline.
- Publicize hotline.
- Respond to complaints throughout permit term.

Costs

- Labor – Existing City staff
- Equipment/Supplies – May need a dedicated phone line

Implementation Schedule
Set up reporting hotline and publicize it in Permit Year 3. Respond to complaints throughout permit term.

4.3.2 Screening, Inspection, or Detection Program

Description

A range of options is available to address illicit discharge detection and elimination. These can be outfall-oriented such as dry-weather screening or source-oriented such as business site inspections. The City will develop a program that uses a combination of complaint-driven investigations and active detection and resolution. Active detection and resolution would start with screening of outfalls for dry-weather flow, investigating dry-weather flows to identify the source, and working with the responsible party to eliminate

it. Dry-weather screening is weather-dependant, and may be difficult since in the south of the City many of the outfalls are submerged; other activities can occur during wet-weather conditions. The City currently inspects for health and construction-related reasons and responds to citizen contacts regarding streets, drainage, and traffic.

Measurable Goals

- Establish baseline measures.
- Develop screening, inspection, or detection program and determine available resources.
- Develop protocol and identify major/priority outfalls.
- Implement screening, inspection, or detection program.

Costs

- Labor – Existing City staff
- Equipment/Supplies
    - Training in sampling and screening techniques
    - Field screening and sampling equipment
        - Manhole hooks
        - Sampling poles
        - Storage bins
        - Digital camera
        - Coolers
        - Colorimeter
        - Gloves, rubber boots
        - Safety gear (vests, traffic cones, etc.)
        - Flashlights
    - Maps of stormwater drainage system
    - Laboratory analysis

Implementation Schedule

Establish baseline measures for dry and wet weather in Permit Year 1. Develop screening, inspection, or detection program and determine available resources in Permit Year 2. Develop protocol in Permit Year 2. Implement screening, inspection or detection program in Permit Year 2, following adoption of ordinance.

4.4 DEVELOP DATABASE OF BUSINESSES

Description

Sugar Land maintains a database of businesses in the municipality. This database will assist in distribution of public education materials and in identifying businesses that may be contributing illicit discharges. Mapping the businesses or listing key map locations provides additional information that will assist in investigating illicit discharges. The City could acquire Standard Industrial Classification (SIC) codes of these businesses from the State Comptroller's office. This will tell which businesses should have their own stormwater permit coverage. TCEQ has a database of businesses that have applied for permit coverage. This BMP will help prioritize educational and enforcement efforts for illicit discharges from businesses.

Measurable Goals

- Update database annually.

Costs

- Labor – Existing City staff
- Equipment/Supplies – N/A

Implementation Schedule
Ongoing.

4.5 RECYCLING PROGRAM FOR HOUSEHOLD HAZARDOUS WASTE

Description
The City of Sugar Land and KSLB, in conjunction with the Fort Bend County Engineering Department and Recycling Center, conduct periodic neighborhood collections of batteries, oil, latex paint, and antifreeze (BOPA) and or consumer electronics. The purpose of these mobile collection events is to provide convenient drop-off points for residents to bring in non-combustible hazardous waste. Residents who arrive with unacceptable items are directed to go the County's Household Hazardous Waste (HHW) Collection Center in Rosenberg.

In addition to supporting mobile BOPA/electronics collections, the City publicizes the Fort Bend Recycling Center. Items accepted at this facility (year-round) include batteries, motor oil, oil filters, latex paint, antifreeze, transmission oil, power steering fluid, cooking oil, consumer electronics, and other recyclables. The City encourages residents to take their household hazardous waste to the Fort Bend County HHW Collection Center. HHW items accepted at this facility include flammables, caustics, reactives, toxics, and unknown chemicals.

The County recently began charging a minimal fee to recycle HHW items. As part of the stormwater management plan, Sugar Land will consider implementing a voucher program for residents who use the Fort Bend Recycling Center.

Measurable Goals

- Continue to hold at least one neighborhood BOPA or electronics collection each year, provided that funds are available to support the event.
- Continue to publicize Fort Bend County's Recycling and HHW Collection Center through the website and in community newsletters.
- Consider implementation of a voucher program for the Fort Bend Recycling Center in Permit Year 3.

Costs

- Labor – Existing City staff
- Equipment/Supplies
    - Cost of voucher program, if implemented

Implementation Schedule
Ongoing.

4.6 SEPTIC SYSTEMS

Description
Sugar Land will evaluate the need to implement a septic system inspection program. As part of this program, Sugar Land would require/facilitate repair of septic systems that are failing to treat wastewater properly. The City of Sugar Land has only a handful of remaining septic systems within the City limits. There is an ordinance in place that prohibits installation of new septic systems within the corporate City limits. For new developments outside the City limits but within the City's extraterritorial jurisdiction, the County allows septic systems to be installed only on properties that are larger than one acre. A septic system inspection program would facilitate improvement of failing septic systems and reduce potential contamination of surface and groundwater, including water supply wells. Sugar Land could field screen areas for indicators of failing systems and/or modify systems to ensure proper treatment.

Measurable Goals

- Evaluate the need to implement a septic system inspection program.
- Develop program, if deemed necessary.
- Respond to 100% of complaints.

Costs

- Labor – Existing City staff
- Equipment/Supplies
    - Dye testing kits
    - Lab analyses (fecal coliform)

Implementation Schedule
Respond to complaints throughout permit term. Evaluate the need to implement a septic system inspection program in Permit Year 3. Develop investigation protocol in Permit Year 3, if program is deemed necessary.